

Remarks:

The Examiner has rejected claims 1-5 and 10-13 under 35 U.S.C. 103 over two alternative combinations of art. The first alternative is rejection under 35 U.S.C. 103 over U.S. Patent 7026007 to Schelling (Hereinafter Schelling) in view of U.S. Patent 5860002 to Huang (hereinafter Huang). The second alternative under 35 U.S.C. 103 is over U.S. Patent 6748526 to Thangadurai in view of U.S. Patent 6381693 to Fish, and further in view of U.S. Patent 5860002 to Huang.

The Amended Claims

Claim 2 has been amended to more clearly state that, not only is the processor type information read into the management subprocessor, but that the step of selecting a compatible boot image is performed by the management subprocessor.

While the wording of Claim 13 indicated that the management subprocessor was responsible for configuring the mapping hardware to present an appropriate boot image to the primary processor, a redundant clause “the management subprocessor” has been inserted to clarify the point.

The New Claims

Claim 14 has scope approximately equivalent to claim 10, but has been written in independent form and incorporates the clarification that selecting a compatible boot image is performed by the management subprocessor.

The First Alternative Rejection

The first alternative is rejection under 35 U.S.C. 103 over U.S. Patent 7026007 to Schelling (Hereinafter Schelling) in view of U.S. Patent 5860002 to Huang (hereinafter Huang).

Teachings of Huang and Schelling

Huang describes a multiprocessor system that incorporates a management processor. The system has several primary processors, each of which can perform boot of a particular operating system. The management processor of Huang is

responsible for assigning an initial boot function to a particular primary processor, and, if that processor fails to boot, reassigning the boot function to a different primary processor.

The management processor of Huang has, however, nothing whatsoever to do with selecting what operating system to boot, and therefore has no need to read a processor type register.

Schelling describes a system having a primary processor that, at boot time, executes a generic boot module. The generic boot module of Schelling then determines which of several processor-specific firmware modules should be loaded next; finally common firmware is loaded.

Schelling is operable on processors that, while different, are members of the same instruction set architecture family and have a generic subset of instructions and registers in common with each other – such that the generic boot module can use this subset to execute properly.

Schelling fails to disclose a management processor.

Schelling Teaches Away From the Claimed System

The entire thrust of Schelling is to provide a way for the primary processor of a system to determine its processor type and load appropriate firmware. In teaching that the primary processor can perform these functions, it teaches away from performing these functions on a management processor.

Performing firmware selection in the management subprocessor as claimed enables operation with a wider selection of processor types than possible with the system of Schelling – since no generic subset of instructions and registers is required.

Schelling Actually Fails to Teach A Cellular Multiprocessor System

A cellular multiprocessor system as defined in the specification is a system having multiple primary processor types *operable at the same time*.

While the phrase “multiple processor” does appear in Schelling, the context of this phrase is “to support multiple processor types or models with a single firmware image”.

The context of this statement is such that Schelling clearly describes not a cellular multiprocessor system as claimed; but a single-processor system that has the ability to support any one of several processor integrated circuit types. Schelling is applicable to a motherboard having a socket that may be stuffed with any of several processor types.

Schelling with Huang Fails to Teach The Claimed Invention

Nothing in Schelling or Huang indicates that processor identification information should be *read into a management processor* as claimed. Nothing in Schelling or Huang indicates that firmware *selection should be a function of the management processor as claimed*.

The mere presence of a management subprocessor in Huang fails to teach that the management subprocessor should perform these specific functions; and fails to overcome the teaching in Schelling that these functions are appropriate functions for the primary processor to perform.

As such, the combination of Huang and Schelling fails to provide both of these key elements of the claimed invention in all 4 independent claims 1, 2, 13, and 14, and therefore does not meet the requirements of a 35 U.S.C. 103 rejection.

In the alternative, with respect to claim 11, since Schelling fails to teach a cellular multiprocessor system, the combination fails to provide key elements of the claimed invention and therefore again fails to meet requirements of a 35 U.S.C. 103 rejection.

The Second Alternative Rejection

The second alternative offered by the examiner is under 35 U.S.C. 103 over U.S. Patent 6748526 to Thangadurai in view of U.S. Patent 6381693 to Fish, and further in view of U.S. Patent 5860002 to Huang.

Teachings of Huang have been described above.

Teachings of Thangadurai, and Fish

Thangadurai describes receiving compatible firmware from a server having multiple firmware sets. Compatible firmware is then placed in an EEPROM

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(Thangadurai 530 or 106) for use during the next system boot. The system of Thangadurai may have multiple primary processors.

Thangadurai does not describe processor type registers or access of a type register *by a management processor* as claimed. Thangadurai clearly performs firmware selection *not in a management processor*, but in the primary processor, and performs this selection as the firmware is downloaded into the EEPROM. Thangadurai suggests identifying compatibility by release date, but is unclear how release date of a processor is to be determined.

Fish has a processor identifier (Fish 106) attached to the system. As with Schelling (see above), Fish is applicable primarily to systems supporting processors of a single instruction set architecture family. Fish uses a generic firmware portion executing **on his primary processor** to read his processor identifier. Fish's primary processor then selects a processor-specific module to load and execute as part of its firmware.

Huang (see above) provides a management processor, and gives the management processor authority to choose a primary processor of a multiprocessor system that boots the system. Huang fails to suggest that firmware selection should be a role of the management processor.

Fish Teaches Away From the Claimed Invention.

The entire thrust of Fish is to provide a way for the primary processor of a system to determine its processor type and then load appropriate firmware. In teaching that the primary processor can perform these functions, it teaches away from performing these functions on a management processor.

Performing firmware selection in the management subprocessor as claimed enables operation with a wider selection of processor types than possible with the system of Fish – since no generic subset of instructions and registers is required.

Thangadurai with Fish and Huang Fails to Teach The Claimed Machine

Nothing in Thangadurai, Fish, or Huang indicates that the processor identification information of Fish should be *read into a management processor* as claimed. Nothing in Thangadurai or Huang indicates that firmware *selection should*

be a function of the management processor as claimed, rather than a function of the primary processor as taught by Thangadurai

The mere presence of a management subprocessor in Huang fails to teach that the management subprocessor should perform either of these specific functions.

As such, the combination of Thangadurai, Fish, and Huang fails to provide both of these key elements of the claimed invention. Since all of these key elements are found in all 4 independent claims 1, 2, 13, and 14, the Examiner's rejection therefore does not meet the requirements of a 35 U.S.C. 103 rejection.

Conclusions

For a 35 U.S.C. rejection to be valid, the art provided by the Examiner must provide the elements of the claimed invention, together with a teaching or suggestion that the elements be combined in such manner as to provide the claimed invention.

Since, in both alternative rejections, the art fails to provide key elements of the claimed invention, neither rejection meets this standard.

Applicants hereby authorize the \$200 fee for one (1) independent claim in excess of three be applied to Deposit Account 08-2025. Applicants also hereby encloses a check for the \$450 fee for the extension of time. Applicant believes no further fees are due, however, if any fee is deemed necessary in connection with this Amendment and Response, please charge Deposit Account No. 08-2025.

Respectfully submitted,

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